REMARKS

This is in response to the Office Action mailed on February 5, 2008 in which claims 1-8 and 17-26 were rejected. With this Amendment, independent claims 1 and 17 are amended. Claims 1-8 and 17-26, as amended, are presented for reconsideration and allowance.

Claim Rejections Under 35 U.S.C. § 103

Of the rejected claims, claims 1-5 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith-Johannsen (U.S. Patent No. 4,246,209) in view of Whalen (U.S. Patent No. 5,824,250) and Auxier (U.S. Patent No. 6,247,896).

Smith-Johannsen teaches freeze casting ceramic slurries. Whalen teaches gel casting ceramic slurries in molds produced by rapid prototype methods. Neither Smith-Johannsen nor Whalen is concerned with making metal parts. Rather, their end products are ceramic objects. Auxier teaches turbine components with internal cooling passages with microcircuit dimensions, but does not teach a process by which such cooling passages can be achieved.

As amended, the present application teaches a method to produce cast metallic gas turbine components having internal passages with microcircuit dimensions using ceramic molds and cores produced by (a) rapid prototyping and (b) freeze casting ceramic slurry technologies. To the inventors' best knowledge, this has not been accomplished heretofore in the art and is considered a novel and nonobvious breakthrough in producing cast metallic turbine blades with internal passages with microcircuit dimensions as defined by Auxier.

Claims 6 and 7 were similarly rejected because they described the freeze casting and dewatering process related to the formation of ceramic cores and molds. As amended, the current application teaches using these articles to produce cast metal turbine blades with internal passages as defined by Auxier with microcircuit dimensions.

Claim 17-26 were similarly rejected because they described a method to produce ceramic molds and cores using rapid prototyping and ceramic slurry freeze casting technologies.

As amended, the present application teaches a method to produce cast metallic gas turbine components having internal passages with microcircuit dimensions as described by Auxier. As noted above, to the inventor's best knowledge, this has not been accomplished heretofore in the art.

CONCLUSION

This Amendment places the application in condition for allowance. Notice to that effect is requested.

Respectfully submitted,

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